

AMENDMENTS TO THE SPECIFICATION:

Kindly replace the paragraph bridging pages 5 and 6, with the following amended paragraph:

Referring to FIG. 6, a mask M is formed on the p-type cladding layer 206 to define a region of the p-type cladding layer ~~[[106]]~~ 206. A region of the p-type cladding layer 206 which is not covered with the mask M is dry etched to a depth using photolithography, and the mask M used is removed. As a result, a ridge stripe 207 is formed on the region of the p-type cladding layer ~~[[106]]~~ 206 from which the mask M is removed. As damage from the dry etching, an N-depletion region (not shown) results in the p-type cladding layer ~~[[106]]~~ 206 at both sides of the ridge stripe 207. Because the N-depletion region has a donor energy level, the p-type cladding layer ~~[[104]]~~ 206 at both sides of the ridge stripe ~~[[27]]~~ 207 acts as a semi-insulator. An electrical current flows through only the ridge stripe 207, thereby allowing the LD to operate in a single traverse mode with more ease.

Kindly replace the paragraph beginning at page 6, line 18, with the following amended paragraph:

Next, the first annealed GaN layer ~~[[208]]~~ 208a is subjected to a second annealing. The second annealing is performed at an atmospheric pressure, and preferably, in an O₂ atmosphere, unlike the first annealing, at 0-1000°C, preferably, 500°C, for a duration from 30 seconds to 10 hours, preferably, 30 minutes. Similar to the first annealing, the second annealing may be performed in any kind of annealing apparatus, and preferably, in a furnace. In FIG. 9, reference numeral 208b denotes

a second annealed GaN layer 208b formed as a result of the second annealing on the first annealed GaN layer 208a.

Kindly replace the paragraph bridging pages 6 and 7, with the following amended paragraph:

Due to the formation of the second annealed GaN layer 208b from the p-GaN layer 108 through the first and second annealing processes, contact resistance between the second annealed GaN layer 208b and the p-type electrode 209 (FIG. 11) formed in a subsequent process is lowered. A probable reason for this is the elimination of hydrogen that remained in the first annealed GaN layer 208a after the first annealing, which would combine with p-type dopants, for example, Mg, and increase the resistance of the first annealed GaN layer 208a, through a direct or indirect reaction with oxygen during the second annealing process. Another probable reason for the reduction of the contact resistance is that oxygen-induced defects occur in the first annealed GaN layer 208a during the second annealing, which increase current conduction, so the contact resistance of the second annealed GaN layer 208b can be lowered.

Kindly replace the paragraph bridging pages 7 and 8, with the following amended paragraph:

A GaN compound semiconductor LD having n-type and p-type electrodes 290 and 314 on its opposing surfaces, respectively, with multiple layers for laser emission between the n-type and p-type electrodes 290 and 314, is shown in FIG.

13. In particular, referring to FIG. 13, a substrate 300 is ~~formed~~ located on the n-type electrode 290. The substrate 300 is an n-type compound semiconductor substrate, i.e., n-GaN substrate. An n-type cladding layer 302, an active layer 304 having a multi-quantum well (MQW) structure, where laser emission occurs by combination of holes and electrons, and a p-type first cladding layer 306 are sequentially formed on the substrate 300. The n-type cladding layer 302 is an n-type compound semiconductor layer having a lower refractive index than the active layer 304, for example, n-AlGaN layer. The p-type first cladding layer 306 is a p-type compound semiconductor layer having a lower refractive index than the active layer 304, for example, p-InAlGaN layer. The active layer 304, the n-type cladding layer 302, and the p-type first cladding layer 306 ~~forms~~ form a resonator layer for laser emission. First and second current barrier layers 308a and 308b are formed on the p-type first cladding layer 306 separated apart by a gap. A current for laser emission is applied through only the gap between the first and second current barrier layers 308a and 308b. In other words, the first and second current barrier layers 308a and 308b together ~~defines~~ define a channel region C having a predetermined width. The channel region C has a stripe shape. A p-type second cladding layer 310 is formed on the first and second current barrier layers 308a and 308b to contact a region of the p-type cladding layer 306 that is exposed through the channel region C. The p-type first and second cladding layers 306 and 310 are formed of the same kind of p-type compound semiconductor, thereby forming a p-n-p junction together with the first and second current barrier layers ~~306a~~ 308a and ~~306b~~ 308b, which are n-type compound semiconductor layers. As a result, a depletion layer is at an interface

between the p-type first and second cladding layers 306 and 310 and the first and second current barrier layers 308a and 308b. In other words, the first and second current barrier layers 308a and 308b block a current from entering the active layer 304 through a region other than the channel region C.

Kindly replace the paragraph beginning at page 10, line 9, with the following amended paragraph:

Referring to FIG. 15, a durable substrate pattern 516 remains at the center of the bottom of the n-type compound semiconductor layer 514, and a conductive layer 518 acting as a lower electrode is formed to cover the bottom of the n-type compound semiconductor layer ~~[[154]]~~ 514 and the durable substrate pattern 516. The structure of the stack of layers sequentially formed on the n-type compound semiconductor layer 514 is the same as in FIG. 14, and thus, a description thereon will be omitted here.